23: Franck--271-272 T-2 (1924) 1926 Laotians
116, 131, 241, 311 Ethnic subgroup

"Sturdy enough in their natural habitat, they [EJ: of the 'Black Miao.'] must live at least three thousand feet above sea-level to be either happy or healthy, just as the Annamese must stick [272] to their miasmic rice-plains; and they never descend below that altitude if there is any way out of it. Of all the races of Indo-China the Miao are probably the most self-sufficient. In common with some other mountain tribes of Laos they burn off steep hillsides, normally every nine years, for their cultivation. When they need new fields to plant, they fell the biggest trees and set afire great patches of the jungle-forest, destroying wood and lumber enough to supply a large city for years to come. This burning is partly to drive off the blackleg fever and partly to give room for grass for their cattle; and as cinders make good fertilizer for a few years, their crops are abundant until it comes time to burn off another mountain-side. As this burning by patches has probably been going on for centuries, much of the Laos is not so forested as one expected to be, but often covered with those half-grown forests which the French call brousse. Yet with all the uneven growth there are many magnificent panoramas of densely forested ranges."

23; Franck--333 T-2 (1924) 1926 Laotians
116, 241, 311 Ethnic subgroup

"Here and there patches of hillsides, even of mountain-sides, were being or had recently been cleared in this primitive way and were now more or less velvety-brown and strewn with fallen charred trees. For like the Miao the Kha still burn a new strip of forest whenever they wish to plant, cutting down mammoth trees just to clear the way, and leaving them to rot. What the coffin-makers of China would not have given for some of them! But I saw nothing planted, perhaps because the end of April is too early in these highlands, as in the grass-grown rice-fields we came upon lower down. Every now and then a tiny hut as bright as if it had been made of new straw stood forth in the middle of a recent clearing, the sleeping-place evidently of a pioneer husbandman too far from home to commute. Upland rice, needing no flooding, and other jungle products are grown by the Kha and the other hill people, and sometimes carried to Luang Prabang itself, though most of them merely grow enough to feed themselves."

25: Brodrick--110 S-3 (1939) 1948 Laotians
116, 311, 361

"The Laotians have pushed down the Mekong valley and up the shores of some of its tributaries. But even in the Mekong Valley the population is sparse. Thakhek, Savannakhet and Paksé are just over-grown villages strung along a stream whose navigation becomes increasingly difficult, until at Khong and the Cambodian frontier the cataracts bar all passage, since the range of the Dangrek Hills, which borders northern Cambodia as a line of cliffs, offers a wall over which the great river's waters pour and seethe...

Laotian settlements, it is true, stretch down as far as Stung-Treng right into Cambodia, where the thin forest is always the same, though bursting here and there into richer vegetation. But the Laotians keep close to the main stream, and Cambodian influence does not cease to grow at the expense of Laotian among the 'savage' peoples off the Mekong's highway."

35: Ennis--130 H-3 (no date) 1936 Laotians
116, 241, 311, 464, 496

"The colonization schemes sponsored by the Indochinese government in other parts of the peninsula have not touched Laos. The local administration, however, has been encouraging small-scale settlements. The Société de l'Houle Pakhout has placed 12,000 coffee plants upon the plateau of Boloven, and in the same region a group of natives has set out 100 hectares of kapotiers. The colonization of Laos cannot be initiated until the railroad from Tanap to Thaklek is completed, which will link up the interior to river nagivation [sic] upon the Mékong. Here, as elsewhere, one of the chief problems is inadequate labor supply. (58)

'58. Rapports au grand conseil, pp. 85 ff."

36: Gourou--23 (no date) 1947 Laotians
116, 311, 361, 376, 503

"Problems of the Mekong and of Laos.

Above Kratié the mighty River Mekong is of very little use. True, it is easy to imagine a marvellous control program, a sort of grandiose Laotian T.V.A. Dams would divide the river into level reaches; locks would allow ships of large tonnage to sail as far as Luang Prabang; the dams would make possible a huge electricity production, and the irrigation of vast tracts. Rice, cotton, maize, would fill the holds of river vessels that would ply to the sea without transhipping their cargos. Pacific and profitable co-operation would be established between Indochina and Siam.... All of which are daydreams. Capital is lacking and, above all, manpower. Such works would be possible only if the lands drained by the Mekong were populous. But Laos should nevertheless not be neglected. It should draw great profit from a modernization of forest exploitation, and from the application of the measures we have outlined above. Nothing valuable, however, will be effected in Laos unless, at first, small, selected areas are developed. It is difficult to help sparse, shifting populations, who escape both health measures and education. Whereas, if the Laotians scientifically colonize their own territory, beginning with integral development of favored areas with health control, they will then be setting up centers of demographic expansion and of economic activity from which the development of the less favored regions can proceed. Only then can the Mekong's domestication be begun."

[123] [Illustration here]

CHAPTER IV

1. POPULATION

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The population of Laos is extremely sparse. For an area of 267,000 square kilometers there are only about 470,000 inhabitants (1).

(1) Official figure, taken from a report by the Superior Resident in Laos.

or an overall average of 176 inhabitants per hundred square kilometers. Southern Laos or Lower Laos has 300,000 inhabitants for 112,000 square kilometers, or 270 inhabitants per hundred square kilometers. Northern or Upper Laos, with an area of 155,000 square kilometers (33,000 more than the above), has only 170,000 inhabitants, or 110 inhabitants per hundred square kilometers.

[124] At the beginning of our occupation, and before a complete census of the country had been taken, it was supposed that the population was much larger. Some travelers even spoke of a population exceeding two million. A scholarly dictionary which appeared two years ago gives Laos from one to two million inhabitants, and the notice on Indo-China which was published on the occasion of the Exposition of 1900 has the figure vary between 600,000 and 800,000.

The low population density can be attributed to two causes:

1. The nature of the terrain;
2. Political events.

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Certain parts of Laos are poorly adapted to the cultivation of cereal grains, rice in particular, because of mountain peaks, thick forests or bare sandy spaces which are not at all favorable to the settlement of human groupings of any size.

The area of cultivable land is estimated at about 80,000 square kilometers, or about one-third of the total surface. These 80,000 square kilometers are not, moreover, evenly distributed. The southern part has a number of vast, low plains formed by the old alluvia of the Mékong. These are well irrigated or can easily be irrigated, and lend themselves particularly to farming. The northern part, on the other hand, is formed almost entirely of close-spaced mountain peaks with only comparatively narrow valleys between them

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161 and a few plateaus of small extent which are the only spots suited to
•311 farming and, in consequence, suited to settlements by human groups.

The uneven disposition of the country is the first cause of the low population density. It is not the only one.

161 For more than a century the Hôs and the Siamese have taken
175 turns in sacking the country, especially the northern part. Their methods differed, but the final result was the same. The former
727 massacred the inhabitants after burning the villages, and forced those who had escaped famine and torture to go and settle in another region. The Siamese proceeded in a more methodical fashion, and
648 depopulated the [125] land by making the inhabitants, livestock and elephants cross over to the right bank of the Mékong and oftentimes then taking them as far as the valley of the Ménam.

Fortunately this state of affairs, which prevailed when we took possession of Laos, is far from being immutable and there is every hope that the causes which gave birth to this forced departure will never again occur. The French occupation has safeguarded the population against the return of the old invasions, and in the same way the equity and justice of our administration make it possible for the natives to count on interior tranquillity and on the products of their labor.

Great efforts have also been made by our consuls in Siam and our administrators in Laos towards repopulating the country, and appreciable results have already been achieved in this direction. Thus by virtue of the agreement appended to the Franco-Siamese treaty of October 3, 1893, two thousand families including a minimum of eight thousand individuals of both sexes and a great deal of livestock who had previously been taken to Siam were able to return and settle on the left bank of the Mékong, the land of their origin.

168 Nothing, moreover, would stand in the way of an appeal to the other parts of Indo-China to repopulate Laos. The deltas, for example, are overflowing with people and their industrious population is so dense that the part of the land which is cultivable is by far too limited for each individual.

By offering these people a few advantages, especially in the beginning, it would be easy to attract them to Laos. By dint of hard work they would doubtless find existence comparatively easy there instead of being reduced, as they are today in certain regions, to a difficult struggle for survival.

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At the present time labor is what is needed to place under cultivation the land which is still lying fallow. Indeed, scarcely 30,000 square kilometers are cultivated out of the 80,000 which could be used. Once placed under cultivation these 50,000 square kilometers (1) could support from [126] 500,000 to 600,000 new inhabitants,

(1) About 15,000 square kilometers in northern Laos and 35,000 in southern Laos.

at the rate of ten or twelve inhabitants per square kilometer.

2. RACES

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The population of Laos can be divided into four large distinct categories. These are:

1. The Thais, that is to say, all the people who speak, write or understand the Thai language with a few slight differences either in pronunciation, the construction of words, orthography or writing. This race is subdivided into several types or varieties which are: The Laotians (or Lao or Phou-Lao) (1).

(1) We have created the word Laotian by derivation to designate the inhabitants of Laos in general, but in reality there is one variety of the Thai family, the most numerous one moreover, which bears the name Lao or Phou-Lao. The whole of the region included in the Mékong basin above Cambodia and in the basin of the Upper Ménam is called Muong-Lao, Xieng-Lao, or land inhabited by the Phou-Lao.

The Phou-Thais.
The Khao-Thais.
The Dam-Thais.
The Dèng-Thais.
The Neua-Thais.
The Phou-Eunes.
The Youns.
The Lus.

"Pa-Niang," formed of slices from a large fish which have been smoked. 226

"Pa-Heng," or a small dried fish. 262

"Pa-Khem" corresponds fairly closely to our salted and dried fish of the sardine type known as Nantes, which are left in salt for only a few days.

Finally, "Pa-Dek" is the form in which most of the large varieties of fish are preserved, and is an almost indispensable part of the native food supply. To prepare Pa-Dek the meat is cut into small pieces and ground in a mortar with salt and pepper so as to produce a kind of paste which is then put in jars with salt. The resulting brine helps to preserve the product (1). 263

(1) The price of Pa-Dek varies between 18 and 25 francs per hundred kilograms. This is the "Mam" of the Annamites.

The price of fish is subject to fluctuations, depending on the scarcity of it. The large fish of which we have just been speaking sell at prices between one and forty francs, depending on their weight and their abundance on the market. 226 435

Eels, shrimp of the prawn type and crabs are also found in the ponds and rivers of Laos during the rainy season, and in the water-courses there are various edible shellfish [353] such as the river mussel and small winkle. The ponds and swamps shelter several varieties of frogs, some of which reach an enormous size. All of them are edible, and are caught with a red ribbon on the end of a line fastened to a long bamboo pole. 226 [227]

II

PRESENT-DAY CROPS

Together with an enumeration of the crops grown in Laos we should like to be able to give the area which each occupies and the cultivable surfaces with the nature of the soil and the type of crops which would be suited to them, but as the Superior Resident states in his report for 1899: 241 311

"We have been in the colony for too short a time to have been able to set up a cadastral registry service. In view of the large area of the territory (267,000 square kilometers), the small and sparse population which inhabits it (3.7 inhabitants per square kilometer in

241 Lower Laos and 1,1 inhabitant in Upper Laos), the considerable expense
311 which the establishment of a registry would involve, and the slight interest attached to such a measure in a land where our advantage lies in exercising only an indirect administration, it is impossible for me to reply in any precise fashion.

"All that I can say is that the area of cultivable land is about 80,000 square kilometers, and that it is very unevenly distributed.
[312] The southern part of the possession does offer a certain number of vast plains which are well irrigated or can be irrigated and which are admirably suited to agriculture.

"The northern part, on the other hand, is almost exclusively made up of a series of juxtaposed mountain masses in a nearly unbroken line which leaves only an insignificant place for the rare valleys and plateaus satisfying the conditions required by agriculture.

"The area of cultivated land may be estimated arbitrarily at 30,000 square kilometers, distributed as follows:

Southern Laos, 20,000 square kilometers.
Northern Laos, 10,000 square kilometers.
} Giving about 15 inhabitants per cultivated square kilometer."

In the preceding chapter we gave a list of the plants which compose the flora of Laos. We shall supplement it here by studying those which are grown as regular crops.

243 RICE. Rice, being the basic food of the Laotians, occupies first place among the country's crops.

Two varieties of rice are grown in Laos, glutinous rice or "Nep" (in Annamite) which is called "Khao-Niaon" in Laotian, and dry rice or "Khao-Tiao" which is known in trade as Cochinchina white rice.

The first is more nourishing and contains a higher percentage of starchy matter. Because of its particular qualities, it is the type most widely cultivated for food and for the manufacture of alcohol.

Dry rice or "Khao-Tiao" is also cultivated, but in smaller quantities. It is primarily used for making pastry and for food by inhabitants of certain races which do not eat glutinous rice.

[554 262] Persons of a certain standing even go so far as to eat only "Khao-Tiao" out of ostentation.

Glutinous rice is grown in plains ricefields as well as in terraced ricefields on hillsides and in "Rais" or temporary clearings in the mountains.

243 262 In reality, this is neither always nor everywhere the case. There are bad years when, because of a shortage of water, production in the ricefields falls by 30 or 40 percent, and the natives are then obliged to turn for their food to the roots, yams and taros which they find in the forest.

[311] [356] It is the northern part of Laos which mainly suffers from this sad state of things, as a result of its hydrological régime, the particular disposition of its farming land, and the fragmentation of the latter into relatively small plots which are remote from one another.

312 In southern Laos the vaster plains and a more complete natural irrigation which can easily be increased as the need arises make it possible not only to satisfy local needs but also to provide paddy and threshed rice for export. Thus in 1898 900 tons of paddy were exported to Cambodia and Cochinchina (1).

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(1) These exports, which seem rather slight, will certainly increase provided that crops are good.

243 439 Here, by way of indication, are some current prices per hundred kilograms of paddy and decorticated rice:

Northern Laos	Paddy	4 francs 10 centimes to 9 francs
	Rice	8 francs 30 centimes to 10 francs 60 centimes
Southern Laos	Paddy	1 franc 65 centimes to 3 francs
	Rice	8 francs 30 centimes to 12 francs 50 centimes

243 In the figures given above as representing the amount of cereal grains needed to feed the population, we should include a certain quantity of maize. We do not have sufficient information to be able to show its importance with respect to the total production of cereals and consequently to say by how many tons the total figure for the paddy crop ought to be reduced in order for this difference to be applied to maize.

Nevertheless, if we take as a basis the total number of inhabitants who grow this crop, we may estimate that in northern Laos the ratio of maize production to that of paddy is about one to five. In southern Laos this crop is much less extensive.

249 is that grown in the regions which we have just mentioned. Because of its origin and the name of the two main distribution markets of the trade, it is called Nong-Khay or Vien-Tiane tobacco.

We do not have exact data on the annual production of tobacco in Laos, because of the excessive fragmentation of the plantings and the absence of a crop registry. But information gained from commercial statistics enables us to say that in 1898 exports from the Paklay-Pone-Pissay region reached more than 42 tons. Also, if we attribute to each [276] inhabitant two grams of tobacco per day (this is not an excessive figure) or ten grams per family of five, we find that total consumption in Laos would be from 340 to 345 tons annually, or a total production of about four hundred tons (1).

(1) See Appendix XXIII.

[435 439] The export sale price varies from fifty to a hundred francs per hundred kilograms, depending on the quality.

248 439 COTTON. Cotton, a herbaceous and annual plant, is cultivated almost everywhere in Laos for local consumption, and particularly in northern Laos for export to Yunnan. In fact, this product is almost the only return cargo for the mule and horse caravans which come in each year from Yunnan-Fou, Tali, S'semao, etc. with tea, furs, iron and copper pots, knick-knacks, etc.

248 The farming methods in northern Laos are as follows. Seeds are placed in pairs in holes which are about ten centimeters deep and spaced at varying distances depending on the region. Stony ground is preferred, on which the brush has been burned away both to clear the land and also [362] to fertilize the soil. No other fertilizer is used except the ashes of the vegetation which covered it.

The seeds are sowed in April or May and usually germinate a few days later. The plantings are harrowed and weeded twice each season, and harvesting is usually finished in November. The cotton is of a mediocre quality, with short staples, but despite this defect it is highly sought-after, as we have seen above, by the Chinese caravans which buy all of the available supply each year at the chief local markets. The height of the plant at full yield does not exceed sixty centimeters, and the yield per kilogram of bolls averages thirty percent or about 300 grams.

248 311 In southern Laos the cotton fields are small in extent, widely scattered and formed chiefly of narrow strips of alluvial terrain on the

banks of the Mekong and its larger tributaries. 248

It is also grown on former rais in the highlands of southern Laos. 311 ?

The climate of the Mekong valley is essentially favorable to the production of cotton, but the extent of the plantings has so far been limited, because of the lack of outlets, to what is strictly necessary to satisfy current local consumption.

Farming methods, in the lowlands of Lower Laos as well as in the highlands, are extremely primitive. The brush is cleared from the piece of land chosen, then without either weeding or fertilization the seeds are sowed in holes made with a dibble. 248

Two varieties are grown:

1. The large-flowered variety (Fai-Dok-Niai), which is preferred as being more productive and having fewer seeds. It is sowed at the end of the rainy season, usually in October, and harvested in March. This variety is cultivated only on the banks of watercourses. Its average height is one meter.

2. The small-flowered variety (Fai-Dok-Noi). It is cultivated only on higher ground, on former rais or in mountainous regions and is similar to the variety found in northern Laos. [363] It is sowed and harvested at about the same times as the above, that is to say from May to July for sowing and November or December for harvesting. Its average height is .7 meter.

It is difficult to determine the yield per hectare, in view of the fact that the cotton fields are irregular and variable in shape and size. On the basis of results in a certain number of fields which were measured separately, however, we may hazard the approximate figure of 200 to 400 kilograms of raw cotton per hectare, depending on the type of soil and its disposition.

On-the-spot purchase prices vary appreciably between the two parts of Laos. In the northern part, for example, the second-grade cotton bought by the Chinese sells for 35 to 40 francs per hundred kilograms. [435]

This crop should be developed further, and in a later paragraph we shall outline the steps which might be taken (1).

(1) Based on the reports of the Superior Commandants of Upper and Lower Laos. [113]

SUGAR CANE. Sugar cane is cultivated everywhere, both in the hills and on the low prairies. It is used only for local consumption, 249

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435 Here, as a sample, is a table showing cardamom production on the plateau of the Bolovens during the last few years, with purchase and sale prices:

Year	Production in kilograms	Price per hundred kilograms	
		On the plateau	At Pnom-Penh
		Purchase	Sale
		francs	francs
1895	120,000	37.50 to 50	66.20 to 85.60
1896	48,000 to 60,000	50 to 58.30	70 to 93
1897	96,000 to 108,000	50 to 62.50	77.80 to 97.30
1898	270,000	50 to 66.60	85.60 to 136.
1899	216,000	54.10 to 75	77.80 to 136

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231 [375] MULBERRY TREES. There are two kinds of mulberry trees for feeding silkworms in Laos: the annual mulberry and the shrub or perennial mulberry (1). In Laotian the latter is called "Kok-Mone,"

(1) It is no doubt to be identified with the multicauline mulberry and the white or Chinese mulberry.

which may be translated literally as silkworm tree.

[311] The mulberry is grown near villages, on the banks of watercourses. Oftentimes the foot of an arborescent mulberry will even be inundated during the rainy season, and it has been noted that the worms which devour the leaves of these trees are more subject than other worms to the diseases of the species and produce less silk. It is therefore probabl that excess humidity is harmful to the mulberry. But if at the present time most of these shrubs are planted in humid regions, this is due to the fact that in many places the higher ground has been abandoned and the inhabitants have settled in the bottoms of valleys. It will be understood that the natives like to have the gardens of mulberry trees

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289 The amount of paper produced is hardly significant, and is limited to local needs.

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311 TEA. Tea is the most important crop of the Sib-Song-Pahn-Na and the Burmo-Shan States on both banks of the Mekong. The regions of production are included between 21° 30' and 22° 30' N. latitude and between 97° 30' and 99° 40' E. longitude.

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648 The greater part of these regions, that is to say those situated on the left bank of the Mekong, belonged to us by the terms of the 1887 Franco-Chinese treaty of Tien-Tsin. But because of our slowness to occupy these territories England inherited the rights of Upper Burma and ceded them to China, and finally only the two Muong-Hou remained in our possession.

563 Unfortunately, the small tea-growing region left to us is not only the least productive, but also the one in which tea-growing has degenerated and is no longer practiced except by the Khas.

[377] Yet the climate of the Muong-Hou is similar to that of Man-La, which is located thirty kilometers to the west and whose tea has the same reputation as those of I-Hou, I-Bang, Muong-Hing, Muong-Pang and Muong-Yang, all of which are known as "S'semao and Pou-Eurl Teas." Furthermore, the altitude and configuration of the soil, the nature of the terrain and the varieties of tea plants are all similar in our territory of Muong-Hou and in that of Man-La. But as a consequence of various circumstances and especially of a long interruption in cultivation between 1884 and 1893, most of the tea plants have not been pruned. They have reached a height of more than six meters and the tea which they produce is almost valueless (1).

(1) See Appendix XXVI.

The average production of the whole tea-growing region has been estimated at from 600 to 660 tons. This tea is exported to China, to Burma, to Laos, to Tonkin and to Siam. In 1891 and 1892 France imported a trial shipment of 6,000 kilograms, but the transaction was not repeated because of a rise in transport costs and customs duties which did not leave a large enough profit for the importer.

435 In the regions of production prices vary, depending on quality, between 75 and 150 francs per hundred kilograms.

The teas which come from this region meet with little approval in Europe, because they lack the various aromas which the Chinese